

CLAIMS

1. An apparatus for applying a liquid coating material, comprising:
an applicator device;
a supply vessel having an interior volume; and
a swivel assembly coupled between the supply vessel and the applicator device, the swivel assembly including a first engagement member having a protruding portion and a first passageway disposed therethrough, and a second engagement member having a concavity and a second passageway disposed therethrough, the protruding portion being moveably engaged within the concavity such that the interior volume of the supply vessel fluidly communicates with the applicator device through the first and second passageways.
2. The apparatus according to claim 1 wherein the first engagement member is attached to the supply vessel and the second engagement member is attached to the applicator device.
3. The apparatus according to claim 1, further comprising a collar that couples the first engagement member and the second engagement member.
4. The apparatus according to claim 3, wherein the collar is configured to retain the protruding portion of the first engagement member and the concavity of the second engagement member.
5. The apparatus according to claim 1 wherein the protruding portion comprises a partially spherical portion and wherein the concavity comprises a partially spherical concavity.
6. The apparatus according to claim 1 wherein the protruding portion is rotatably and pivotally moveable within the concavity.

7. The apparatus according to claim 1 wherein the first engagement member includes a recessed portion proximate the protruding portion, the recessed portion being sized to receive a portion of the second engagement member when the second engagement member is pivoted with respect to the first engagement member.

8. The apparatus according to claim 1 wherein the second engagement member includes an outer wall surrounding the concavity, the outer wall including a tapered end portion.

9. The apparatus according to claim 1 wherein the second engagement member includes an outer wall surrounding the concavity, the outer wall including a tapered end portion, and wherein the first engagement member includes a recessed portion proximate the protruding portion, the recessed portion being sized to at least partially receive the tapered end portion when the second engagement member is pivoted with respect to the first engagement member.

10. The apparatus according to claim 1 wherein the first engagement member is threadedly coupled to the supply vessel and the second engagement member is threadedly coupled to the applicator device.

11. The apparatus according to claim 1, further comprising a pressure source coupled to the applicator device.

12. A swivel assembly for coupling a supply vessel to an applicator device for applying a liquid coating material, comprising a first engagement member having a protruding portion and a first passageway disposed therethrough, and a second engagement member having a concavity and a second passageway disposed therethrough, the protruding portion being moveably engaged within the concavity, the first passageway being in fluid communication with the second passageway such that the supply vessel fluidly communicates with the applicator device through the first and second passageways.

13. The apparatus according to claim 12 wherein the protruding portion is rotatably and pivotally moveable within the concavity.

14. The assembly according to claim 12, further comprising a collar that couples the first engagement member and the second engagement member.

15. The apparatus according to claim 14, wherein the collar is configured to retain the protruding portion of the first engagement member within the concavity of the second engagement member.

16. The apparatus according to claim 15, wherein the collar includes a first threaded portion and the second engagement member includes a second threaded portion engageable with the first threaded portion, the collar being selectively adjustable to obtain a desired positional orientation between the first engagement member and the second engagement member.

17. The apparatus according to claim 12 wherein the protruding portion comprises a partially spherical protruding portion and wherein the concavity comprises a partially spherical concavity.

18. The apparatus according to claim 12 wherein the first engagement member is adapted to be engaged with the supply vessel and the second engagement member is adapted to be engaged with the applicator device.

19. A method of supplying a liquid material to an applicator device, comprising:

coupling a supply vessel to the applicator device using a swivel assembly, the swivel assembly including a first engagement member having a concavity therein and a first passageway therethrough, and a second engagement member having a protrusion and a second passageway disposed therethrough, the protrusion being moveably engaged within the

concavity and the first passageway being in fluid communication with the second passageway;

providing the liquid material into the supply vessel; and

flowing the liquid material from the supply vessel through the first and second passageways to the applicator device.

20. The method according to claim 19 wherein coupling a supply vessel to the applicator device using a swivel assembly comprises coupling a supply vessel to the applicator device using a swivel assembly wherein the concavity comprises a partially spherical concavity and wherein the protrusion comprises a partially spherical protrusion.

21. The method according to claim 19, wherein coupling a supply vessel to the applicator device using a swivel assembly further comprises coupling the first engagement member and the second engagement member with a collar.

22. The method according to claim 21, wherein coupling the first engagement member and the second engagement member with a collar further comprises retaining at least a part of the protruding portion of the first engagement member within the concavity of the second engagement member.

23. The method according to claim 22, wherein the collar includes a first threaded portion and the second engagement member includes a second threaded portion engageable with the first threaded portion, and retaining at least a part of the protruding portion of the first engagement member within the concavity of the second engagement member further comprises engaging the first threaded portion and the second threaded portion and applying a desired torque to the collar to retain a desired positional orientation between the first engagement member and the second engagement member.

24. The method according to claim 19 wherein coupling a supply vessel to the applicator device using a swivel assembly comprises coupling a supply vessel to the applicator device using a swivel assembly wherein the protrusion is rotatably and pivotally moveable within the concavity.

25. The method according to claim 19 wherein coupling a supply vessel to the applicator device using a swivel assembly comprises coupling a supply vessel to the applicator device using a swivel assembly wherein the protrusion is pivotally moveable within the concavity.

26. The method according to claim 19 wherein flowing the liquid material from the supply vessel through the first and second passageways to the applicator device includes flowing compressed gas through the applicator device.

27. The method according to claim 19 wherein flowing the liquid material from the supply vessel through the first and second passageways to the applicator device comprises gravitationally flowing the liquid material from the supply vessel.

28. The method according to claim 19, further comprising pivoting the protrusion within the concavity such that a first longitudinal axis of the first passageway is not aligned with a second longitudinal axis of the second passageway.